WHAT IS CLAIMED IS:

1. A method of operating a suction-type pool cleaner which is not connected to an external power source by means of electrical leads, said method including the steps

5 of generating electrical energy by water flowing through the pool cleaner; and electrically controlling at least one operating characteristic of the cleaner.

2. A method according to claim 1 wherein the control step is carried out in response to at least one sensed input.

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3. A method according to claim 2 wherein the sensed input is selected at least from the group including the condition of a floor or other submerged surface in a pool in which the cleaner operates; the presence of dirt, leaves and other debris; and the physical structure of a pool in which the cleaner operates.

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4. A method according to claim 2 wherein the sensed input relates to at least one operating condition of the cleaner, a pool in which the cleaner operates, or a filter system associated with the pool.

5. A method according to claim 4 wherein the operating condition is selected from the group including: the speed of the movement of the cleaner; the direction of movement of the cleaner; the attitude of the cleaner in the water; the height of the cleaner in the water above a submerged surface; the presence of the cleaner at an air/water interface; and, the water flow rate through the cleaner.

6. A method according to claim 1 wherein the operating characteristic is selected at least from the group including: water flow rate through the cleaner, the direction of movement of the cleaner, the speed of movement of the cleaner and the travel path of the cleaner through the water.

7. A method according to claim 1 which includes the steps of storing one or more patterns or modes of operating characteristics and controlling the operation of the cleaner at least in accordance with one of said stored patterns.

8. A method according to claim 1 which includes the step of controlling the cleaner in response to actual operating conditions or according to stored characteristics.

9. A method according to claim 1 wherein the electrical energy is generated using an actuator which drives an electrical generator.

10. A method according to claim 1 which includes the steps of:

(a) using the generated electrical energy to power decision-making electronics which can monitor the movement and action of the pool cleaner and detect data relating to surroundings of the pool cleaner; and

5   (b) using the data to influence or control at least one of the following: the movement of the pool cleaner; actions of the pool cleaner, and, suction through the pool cleaner.

11. A method according to claim 10 wherein the data used in step (c) is input by

10   a user.

12. A method according to claim 10 wherein, in step (b), the movement of the cleaner is controlled using an electrically controlled valve or throttle to adjust water flow rate through the cleaner.

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13. A method according to claim 10 which includes the step, if the cleaner does not move freely, of reducing water flow through the cleaner.

14. Apparatus for use with a suction-type pool cleaner which is not connected to

20   an external power source by means of electrical leads which includes electrical energy supply means, and control means which is powered by the electrical energy supply means for controlling at least one operating characteristic of the cleaner, characterized in that electrical energy is generated by water flowing through the pool cleaner.

15. Apparatus according to claim 14 wherein the electrical energy supply means includes drive means which is responsive to water flow through the cleaner and electrical energy generating means, which is powered by the drive means, for producing a supply voltage which is applied to the electrical energy supply means.

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16. Apparatus according to claim 14 which includes means for sensing at least one operating condition of the cleaner and wherein the control means is responsive to the sensing means for controlling at least one operating characteristic of the cleaner.

10   17. Apparatus according to claim 16 wherein the operating condition or conditions are selected from the group including: movement of the cleaner; the direction of movement of the cleaner; the speed of movement of the cleaner; the attitude of the cleaner in the water; and, the water flow rate through the cleaner.

15   18. Apparatus according to claim 14 which includes storage means, and wherein the control means is responsive to data or information stored in the storage means, for controlling at least one operating characteristic of the cleaner.

19. Apparatus according to claim 18 wherein the storage means includes
20   memory means for storing a plurality of parameters relating to pool cleaner movement and wherein the parameters are employed to influence the movement operating characteristics of the cleaner.

20. Apparatus according to claim 14 wherein the control means is used to control one or more operating characteristics of the cleaner selected from the group including: water flow rate through the cleaner; the direction or speed of movement of the cleaner; the attitude of the cleaner in the water body; and, the strength of a suction force applied to the cleaner.

21. Apparatus according to claim 14 wherein the control means includes a valve, a throttle or a diverter to regulate water flow through the cleaner.

22. Apparatus according to claim 14 wherein the control means includes at least one suction inlet which is operable to impart thrust to the cleaner in a desired direction in order to change its direction of movement, or to create friction which causes a change in the cleaner's direction of movement.

23. Apparatus according to claim 14 which includes sensors and wherein the control means controls movement of the cleaner in response to the sensors.